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Produktinformation

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

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- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

OPN1LW/MW/MW2 siRNA (h): sc-44074

BACKGROUND

G protein-coupled receptors (GPCRs), which are characterized by containing seven transmembrane α helices, elicit G protein-mediated signaling cascades in response to a variety of stimuli. The opsin subfamily, which represents approximately 90% of all GPCRs, is comprised of photoreceptors that are activated by light. It includes the red, green and blue-sensitive opsins and rhodopsin. The opsin subfamily consists of an apoprotein covalently linked to 11-*cis*-retinal, which undergoes isomerization upon the absorption of photons. This isomerization leads to a conformational change of the protein, which results in the activation of hundreds of G proteins. Color is perceived in humans by three pigments, which localize to retinal cone photoreceptor cells. They are the blue-, green- and red-sensitive opsins, which are encoded by OPN1SW, OPN1MW and OPN1LW, respectively. Mutations in the OPN1MW and OPN1LW encoded opsins lead to the X-linked disorders protanopia and deuteranopia, respectively. Mutations in the OPN1SW encoded opsin leads to tritanopia, an autosomal dominant disorder, which is characterized by decreased sensitivity to blue light.

REFERENCES

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2. Hargrave, P.A., et al. 1983. The structure of bovine rhodopsin. Biophys. Struct. Mech. 9: 235-244.
3. Drummond-Borg, M., et al. 1988. Molecular basis of abnormal red-green color vision: a family with three types of color vision defects. Am. J. Hum. Genet. 43: 675-683.
4. Oprian, D.D., et al. 1991. Design, chemical synthesis and expression of genes for the three human color vision pigments. Biochemistry 30: 11367-11372.
5. Weitz, C.J., et al. 1992. Human tritanopia associated with two amino acid substitutions in the blue-sensitive opsin. Am. J. Hum. Genet. 50: 498-507.
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CHROMOSOMAL LOCATION

Genetic locus: OPN1MW/OPN1MW2/OPN1LW (human) mapping to Xq28.

PRODUCT

OPN1LW/MW/MW2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see OPN1LW/MW/MW2 shRNA Plasmid (h): sc-44074-SH and OPN1LW/MW/MW2 shRNA (h) Lentiviral Particles: sc-44074-V as alternate gene silencing products.

For independent verification of OPN1LW/MW/MW2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-44074A, sc-44074B and sc-44074C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

OPN1LW/MW/MW2 siRNA (h) is recommended for the inhibition of OPN1LW, OPN1MW and OPN1MW2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor OPN1LW/MW/MW2 gene expression knockdown using RT-PCR Primer: OPN1LW/MW/MW2 (h)-PR: sc-44074-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.